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### 6 NATIONAL INTEGRATED BALLISTIC INFORMATION NETWORK (NIBINTM)

### 6.1 Introduction

The National Integrated Ballistics Information Network (NIBIN<sup>TM</sup>) is a computerized system for acquiring and storing the images of unidentified bullets and cartridge cases as well as known bullets and cartridge cases. NIBIN<sup>TM</sup> images portions of the surface (land engraved areas) of a bullet and the primer/firing pin area and ejector or breechface marks of fired cartridge cases, using state-of-the-art optical and electronic technology. These images are then stored in databases and sophisticated algorithms are used to correlate the images against each other using filters such as caliber, rifling specifications, date of crime, and date of entry. These correlations produce lists of possible matches with the highest score at the top of the list. A firearm examiner can then call up the images and compare them side by side on a monitor. If a possible association is found during this screening process then the actual evidence to test, or evidence to evidence, is compared by an examiner utilizing traditional comparative microscopic techniques.

## 6.2 Safety Considerations

Examinations performed in the Firearm and Toolmark Section are inherently hazardous. These procedures involve hazardous chemicals, firearms, ammunition, and power tools. All hazardous procedures must be performed in compliance with the DFS Safety Manual.

#### 6.3 Preparation

**NONE** 

### 6.4 Instrumentation

NIBINTM System

### 6.5 Minimum Analytical Standards and Controls

The system calibration will be checked weekly and adjusted as necessary.

### 6.6 Procedure or Analysis

### 6.6.1 The NIBIN<sup>TM</sup> Procedure

The NIBIN<sup>TM</sup> Procedures Manual should be followed in order to make entries into the system.

# 6.6.2 Analysis of Evidence for NIBIN<sup>TM</sup> Entry

The firearm examiner should insure suitability of the items being entered. The examiner must insure that:

- Any evidence bullet selected for entry into NIBIN<sup>TM</sup> must have at least one clear and distinct land engraved area and must have sufficient individual characteristics to be able to affect a match.
- Any evidence cartridge case selected for entry into NIBIN<sup>TM</sup> must have sufficient individual characteristics within the firing pin impression and/or within the breech face marks on the primer to affect a match.
- If from the same case file there is more than one matching evidence bullet and/or cartridges case suitable for entry into NIBIN<sup>TM</sup>, then:

Examiner should select the best marked item for entry Enter additional bullets if different individual characteristics reproduce better on different tests

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Case notes documentation:

Any information about the identification of evidence bullets/cartridge cases to each other The selection of which specimens were entered into NIBIN<sup>TM</sup>

### 6.6.3 Reporting Formats

- 6.6.3.1 All results will be issued on a Certificate of Analysis.
- 6.6.3.2 Whenever there is a possible association between two or more cases using the NIBIN™ system, the primary agency the agency which initiated the request will be issued an original, with a copy to all secondary agencies.
- 6.6.3.3 To the maximum extent possible, one of the following statements will be used to report the results of a NIBIN<sup>TM</sup> requested examination.
  - An image of the cartridge case and/or bullet from the item [\_\_] was entered into the NIBIN<sup>TM</sup> system. No associations were made at this time; however, searches will be conducted periodically as new images are entered into the database. It is recommended that item [\_\_] be retained for future examination.
  - An image of the cartridge case and/or bullet from test firing the item [\_\_] firearm was entered into the NIBIN<sup>TM</sup> system. No associations were made at this time; however, searches will be conducted periodically as new images are entered into the database.
  - An image of the cartridge case or an image of the bullet from item [\_\_] is similar to an image which was entered in connection with FS Lab # (or other laboratory's lab #) submitted by (name) of (agency). Their agency case number is [\_\_]. Arrange to have the evidence resubmitted to this laboratory for direct comparison and a more definitive determination.
  - An image of the cartridge case and/or bullet from test firing the item [\_\_] firearm was not entered into NIBIN<sup>TM</sup> because of the lack of sufficient suitable markings.
  - A NIBIN™ search could not be conducted due to the lack of sufficient suitable markings on the cartridge case and/or bullet.
  - ▶ A NIBIN<sup>TM</sup> search was not conducted, because revolver type cartridge case images are not being maintained in the database.

# 6.7 Appropriate Appendices

Appendix C - Work Sheets

6.8 References

NONE